**IN THE CLAIMS**

Please substitute the following claim set for those currently of record:

1. -36. (Cancelled)

37. (Previously presented) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads by flow cytometry.

38. (Cancelled)

39. (Previously presented) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads;

isolating product beads which are bound to a plurality of copies of the one species of analyte DNA;

amplifying the one species of analyte DNA molecule from the isolated product beads.

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Previously presented) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads by hybridization to oligonucleotide probes which are differentially labeled.

44. (Cancelled)

45. (Currently amended) ~~The method of claim 44~~ A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising more than one species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining ~~wherein the are determined~~ using flow cytometry an amount of product beads comprising a first species of analyte DNA molecule as a fraction of

product beads.

46. -59. (Cancelled)

60. (Previously presented) A method for isolating nucleotide sequences, comprising:

forming microemulsions comprising more than one species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

isolating using fluorescence activated cell sorting product beads which are bound to a plurality of copies of a first species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule.

61. (Cancelled)

62. (Previously presented) A method for isolating nucleotide sequences, comprising:

forming microemulsions comprising more than one species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

isolating product beads which are bound to a plurality of copies of a first species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule;

amplifying the first species of analyte DNA molecule from the isolated product beads.

63. -90. (Cancelled)

91. (New) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising one or more species of analyte DNA molecules;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of one species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the one species of analyte DNA molecule which is bound to the product beads by a technique selected from the group consisting of: hybridization to a fluorescently labeled oligonucleotide probe; allele specific priming; single nucleotide extension; hybridization to a fluorescein-conjugated oligonucleotide probe; and hybridization to a biotin-conjugated oligonucleotide probe.

92. (New) The method of claim 91 wherein the technique used for determining is hybridization to a fluorescently labeled oligonucleotide probe.

93. (New) The method of claim 91 wherein the technique used for determining is allele specific priming.

94. (New) The method of claim 91 wherein the technique used for determining is single nucleotide extension.

95. (New) The method of claim 91 wherein the technique used for determining is hybridization to a fluorescein-conjugated oligonucleotide probe.

96. (New) The method of claim 91 wherein the technique used for determining is hybridization to a biotin-conjugated oligonucleotide probe.

97. (New) The method of claim 92 wherein the oligonucleotide probe has a stem and loop structure.

98. (New) The method of claim 95 wherein the oligonucleotide probe has a stem and loop structure.